Amendments to the Claims

The listing of claims presented below replaces all prior versions, and listings, of claims in the application.

Listing of claims:

1. (currently amended) A method of weighing a load by means of a weighing apparatus comprising a plurality of load cells [[(1)]] arranged underneath a load platform [[(4)]] supported on said load cells [[(1)]], said load cells [[(1)]] being connected together to form a communication network, said method comprising generating a digital representation of the load on each load cell [[(1)]], determining a correction coefficient X_j of said digital representation for each load cell [[(1)]], ~~characterised in that it furthermore comprises~~ storing said correction coefficient X_j in the respective load cell [[(1)]] and varying the gain of each load cell [[(1)]] on the basis of the respective correction coefficient X_j to generate a correct digital representation of the load for each cell [[(1)]], <u>each load cell detecting its own address I and checking that said address I is other than zero, whenever said weighing apparatus switches on, wherein if said address I is the same as zero, the load cell generates and stores its own address I consisting of a number selected at random from a range comprised between n+1 and m, n being the maximum number of load cells for which said apparatus is designed.</u>

2. (cancelled)

3. (cancelled)

4. (currently amended) A method according to ~~claim 2, or 3~~ <u>claim 1</u>, wherein each load cell [[(1)]] generates and stores a random number [[(I_C)]] <u>I_C</u> comprised between 0 and 9.

5. (currently amended) A method according to ~~any one of the claims from 2 to 4~~ <u>claim 1</u>, furthermore comprising checking whether said apparatus comprises a master terminal.

6. (currently amended) A method according to claim 5, wherein, if said apparatus

does not comprise a master terminal, one of the load cells [[(1)]] acts as a master terminal.

7. (currently amended) A method according to claim 6, wherein the cell [[(1)]] that acts as a master terminal is the one that first accesses said communication network, the access of each cell [[(1)]] to said communication network occurring at an access time equal to $T_A = 1 \times 10 + I_C$.

8. (currently amended) A method according to ~~any one of the claims from 5 to 7~~ claim 5, wherein said master terminal queries said communication network to check if cells [[(1)]] exist with an address comprised between 1 and n.

9. (currently amended) A method according to claim 8, wherein if two or more cells [[(1)]] have an address that is the same and is comprised between 1 and n, an error signal is generated.

10. (currently amended) A method according to claim 8, wherein, at the end of said query, the master terminal checks whether the number of cells [[(1)]] with an address comprised between 1 and n is the same as or less than the total number of cells [[(1)]] of the weighing apparatus.

11. (currently amended) A method according to claim 10, wherein, if the number of cells [[(1)]] with an address comprised between 1 and n is less than the total number of cells [[(1)]] of said weighing apparatus, the master terminal carries out a further query of said communication network to check if cells exist with a address comprised between n+1 and m.

12. (currently amended) A method according to claim 11, wherein at the end of said further query, the master terminal checks whether the total number of cells [[(1)]] identified corresponds to the total number of cells of said weighing apparatus and generates an error signal if there is no correspondence between said two total numbers.

13. (currently amended) A method according to ~~any one of the claims from 2 to 12~~ claim 1, furthermore comprising checking whether the voltage supplied to each load cell [[(1)]] is comprised within a preset range.

14. (original) A method according to claim 12, furthermore comprising regulating said supply voltage to bring it back within said preset range if its value does not fall within said preset range and generating an error signal if it is not possible to bring said value back within said preset range.

15. (currently amended) A method according to ~~any one of the claims from 2 to 3~~ claim 1, furthermore comprising checking the temperature of each load cell [[(1)]], to make sure that it is comprised within a preset temperature range and generating an error signal if said temperature is not comprised within said preset range.

16. (currently amended) A method according to ~~any one of the claims from 2 to 14~~ claim 1, furthermore comprising enabling said apparatus for operation if the addresses of all the cells are comprised between 1 and n.

17. (currently amended) A method according to ~~any one of the claims from 2 to 15~~ claim 1, wherein if no cell [[(1)]] has an address comprised between 1 and n, said correction coefficient X_j is calculated for each one of said load cells [[(1)]].

18. (currently amended) A method according to ~~any one of the claims from 2 to 15~~ claim 1, wherein if two or more cells [[(1)]] have an address that is not comprised between 1 and n, aid correction coefficient X_j is calculated for all the load cells [[(1)]] of said weighing apparatus.

19. (currently amended) A method according to claim ~~16 or 17~~ claim 1, wherein the following procedure is used to calculate said correction coefficient X_j:

each load cell [[(1)]] detects its own weight indication if there is no load on said load platform [[(4)]], it stores a digital representation thereof and communicates said digital representation to the master terminal;

a weight is placed in a preset first position on said load platform [[(4)]] and

each load cell [[(1)]] detects its own weight indication, stores a digital representation thereof and communicates said digital representation to the master terminal, said first preset position corresponding to the position of one of said cells [[(1)]] underneath said load platform;

said weight is subsequently shifted to further preset positions, each one of which corresponds to the position of a different load cell [[(1)]] underneath said load platform [[(4)]] and each load cell [[(1)]] detects its own weight indication for each one of said further preset weight positions, it stores a digital representation thereof and communicates said digital representation to the master terminal.

20. (currently amended) A method according to claim 19, wherein each load cell [[(1)]] calculates the differences between the digital representation of its own load indications for each one of said preset positions and the digital representation of its own load indication if there is no load on said load platform [[(4)]], stores said differences and communicates them to the master terminal.

21. (currently amended) A method according to claim 20, wherein the master terminal identifies the position of each load cell [[(1)]] underneath said load platform [[(4)]], the position of each load cell [[(1)]] corresponding to the position of the weight on the load platform [[(4)]] for which said difference is at its greatest.

22. (currently amended) A method according to claim 21, wherein said master terminal assigns to each load cell [[(1)]] an address comprised between 1 and n, corresponding to the position of the load cell [[(1)]] underneath the load platform [[(4)]].

23. (currently amended) A method according to ~~any one of the claims from 16 to 21~~ claim 1, wherein said coefficients X_j are calculated by the master terminal and by each cell [[(1)]] resolving a system of n equations in n unknown quantities wherein each equation has the following form:

$B_i = N_{i1}X_1 + N_{i2}X_2 + \ldots + N_{in}X_n$

N_{ij} being the digital representation of the weight indication supplied by the cell [[(1)]] in position "j" when the sample weight is placed on the platform in position "i", X_j is

the value of the correction coefficient for the cell [[(1)]] in position "j", B_i is the known term of the equation and is equal to the average of the sum of all the N_{ij}.

24. (currently amended) A method according to ~~any one of the claims from 2 to 15~~ claim 1, wherein if just one load cell [[(1)]] has an address that is not ~~comprises~~ between 1 and n, said correction coefficient X_j is calculated for said sole load cell [[(1)]].

25. (currently amended) A method according to ~~claim 23~~ claim 24, wherein this procedure is followed to calculate said correction coefficient X_j:

said ~~sole~~ just one load cell [[(1)]] with an address that is not comprised between 1 and n on said load platform, stores a digital representation thereof and communicates said digital representation to the master terminal;

a weight is placed in a preset first position on said load platform [[(4)]] and said ~~sole~~ just one load cell [[(1)]] detects its own weight indication, stores a digital representation thereof and communicates said digital representation to the master terminal, said first preset position corresponding to the position of one of said cells [[(1)]] underneath said load platform;

said weight is subsequently shifted to further preset positions, each one of which corresponds to the position of a different load cell [[(1)]] underneath said load platform and said ~~sole~~ just one load cell [[(1)]] detects its own weight indication for each one of said further preset weight positions of the sample weight, stores a digital representation thereof and communicates said digital representation to the master terminal.

26. (currently amended) A method according to ~~claim 24~~ claim 25, wherein said ~~sole~~ just one load cell [[(1)]] calculates the differences between the digital representations of its own load indications for each one of said preset positions and the digital representation of its own load indication if there is no load on said load platform [[(4)]], stores said differences and communicates them to the master terminal.

27. (currently amended) A method according to claim 26, wherein the master terminal identifies the position of said ~~sole~~ just one load cell [[(1)]] underneath said

load platform [[(4)]], the position of said sole load cell corresponding to the position of the weight on the load platform for which said difference is at its greatest.

28. (currently amended) A method according to ~~claim 26~~ claim 27, wherein said master terminal assigns to said ~~sole~~ just one load cell [[(1)]] an address ~~comprised~~ between 1 and n, corresponding to the position of the ~~sole~~ just one load cell [[(1)]] underneath the load platform [[(4)]].

29. (currently amended) A method according to ~~claim 27~~ claim 28, wherein said weight is placed on said load platform [[(4)]] in a position corresponding to the position of said just one load cell [[(1)]] and in a position corresponding to a position of another cell [[(1)]] that is the furthest from said just one load cell [[(1)]] and said ~~sole~~ just one load cell [[(1)]] stores its own weight indications for said two positions, calculating the respective differences between said weight indications and its own weight indication if there is no load on the platform [[(4)]].

30. (currently amended) A method according to ~~claim 28~~ claim 29, wherein said correction coefficient X_j for said ~~sole~~ just one load cell [[(1)]] is calculated by using an equation according to claim 21.

31. (currently amended) A weighing apparatus comprising a plurality of load cells [[(1)]], a means [[(4)]] for receiving a load supported by said load cells [[(1)]], a means associated with each load cell [[(1)]] to supply a digital representation of the load on each load cell [[(1)]], ~~characterised in that it furthermore comprises~~ a means for varying the gain of each load cell [[(1)]] in function of correction coefficients X_j calculated for each load cell [[(1)]], to obtain a corrected digital representation of the load on each load cell [[(1)]].